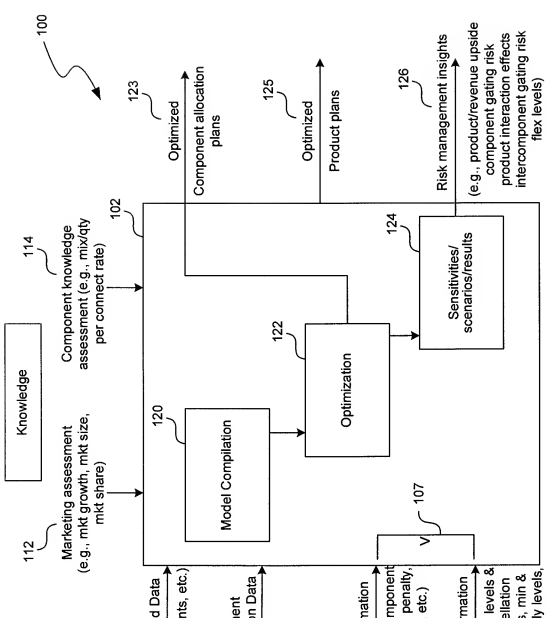
100
Knowledge
114
Component knowledge assessment (e.g., mix/qty per connect rate)
112
Marketing assessment (e.g., mkt growth, mkt size, mkt share)
102
123
Optimized
Component allocation plans
125
Optimized
Product plans
126
Risk management insights
(e.g., product/revenue upside component gating risk product interaction effects intercomponent gating risk flex levels)
120
Model Compilation
122
Optimization
124
Sensitivities/ scenarios/results
107
104
Product Demand Data
(bookings, shipments, etc.)
(historical)
106
Component Consumption Data
108
Financial Information
(product price, component cost, missed sale penalty, value erosion, etc.)
110
Operational Information
(supply expediting levels & premiums, cancellation levels & penalties, min & max product supply levels, etc.)

FIG. 1

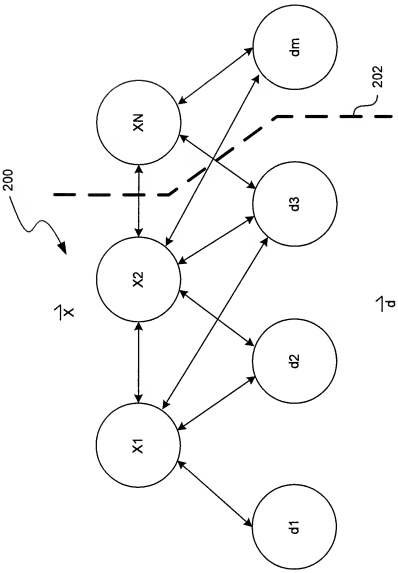

FIG. 2

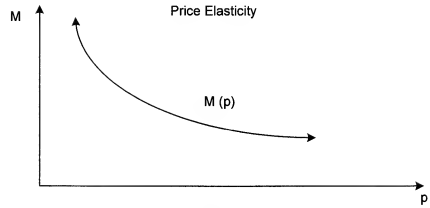
M
Price Elasticity
M (p)
p

FIG. 3A

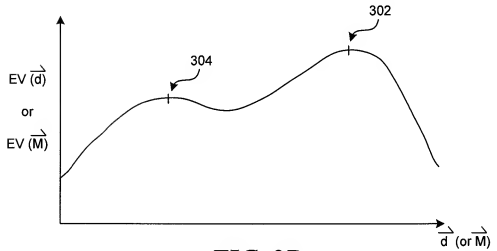
302
304
EV $\overrightarrow{(d)}$
or
EV $\overrightarrow{(M)}$
$\overrightarrow{d}$ (or $\overrightarrow{M}$)

FIG. 3B

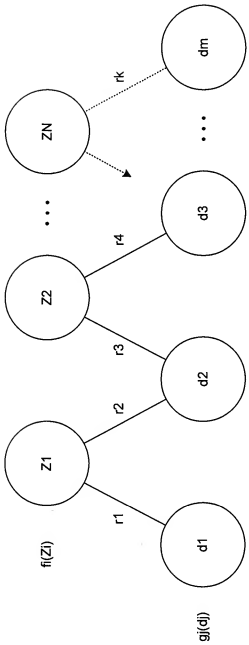

FIG. 4

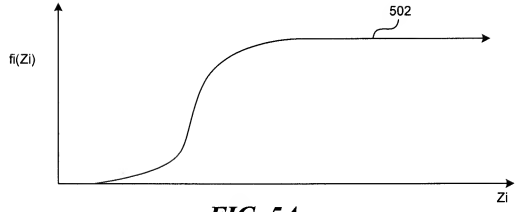

FIG. 5A

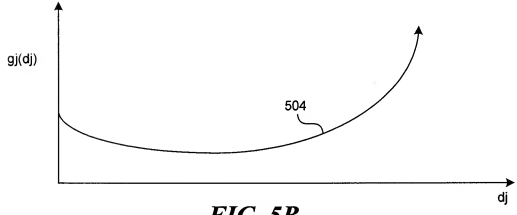

FIG. 5B

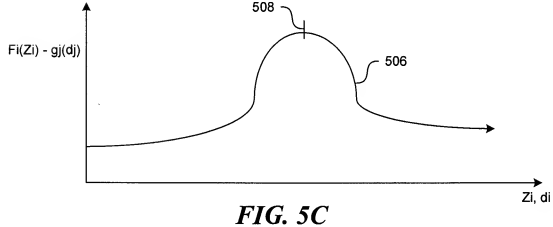

FIG. 5C

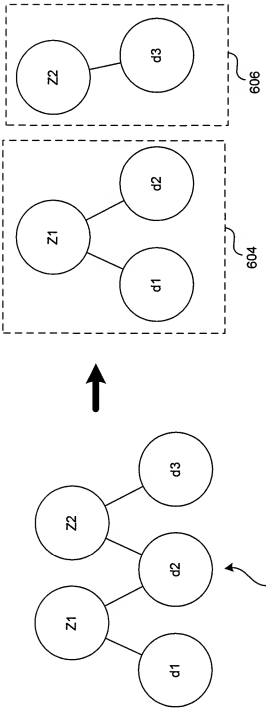

FIG. 6

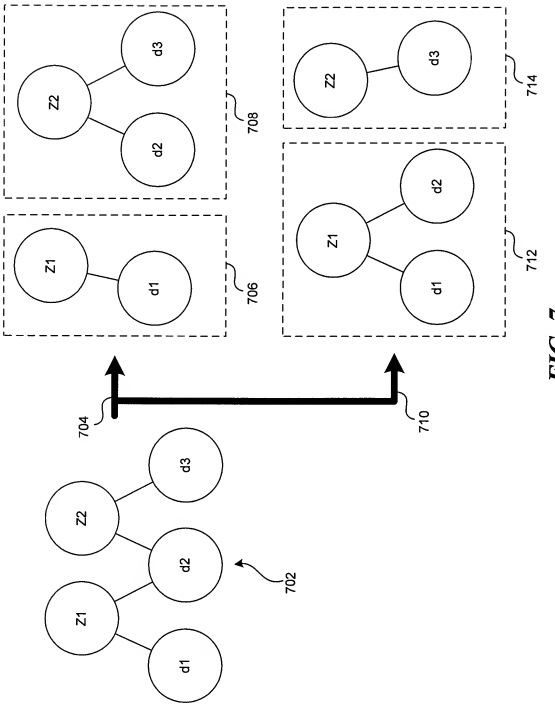

FIG. 7

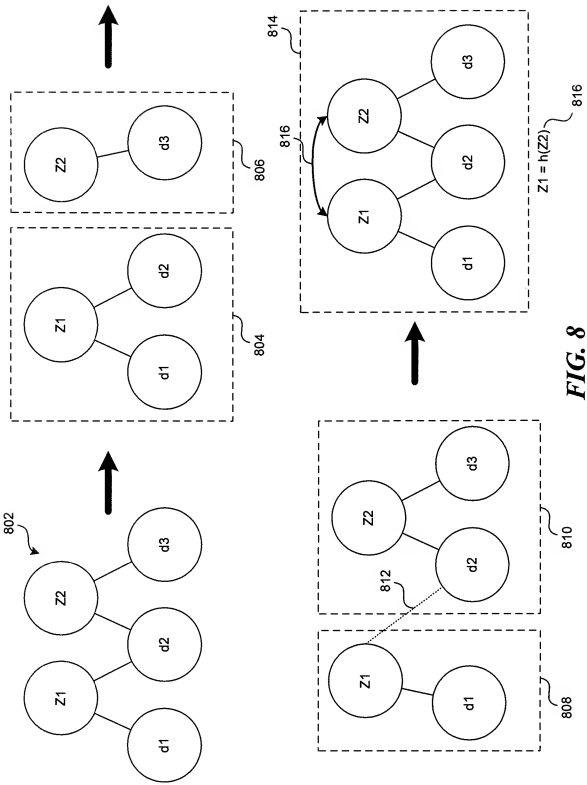

FIG. 8

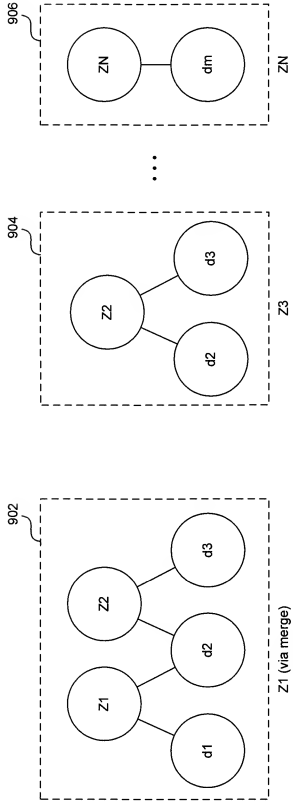

FIG. 9

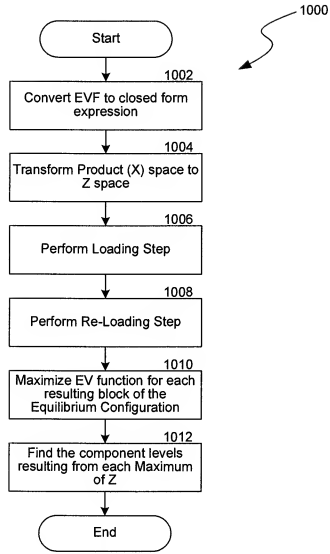
1000
Start
1002
Convert EVF to closed form expression
1004
Transform Product (X) space to Z space
1006
Perform Loading Step
1008
Perform Re-Loading Step
1010
Maximize EV function for each resulting block of the Equilibrium Configuration
1012
Find the component levels resulting from each Maximum of Z
End

FIG. 10

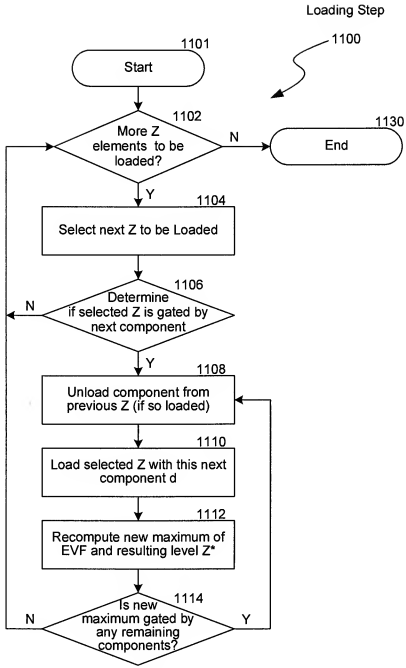
Loading Step
1100
1101
Start
1102
More Z elements to be loaded?
N
1130
End
Y
1104
Select next Z to be Loaded
1106
Determine if selected Z is gated by next component
N
Y
1108
Unload component from previous Z (if so loaded)
1110
Load selected Z with this next component d
1112
Recompute new maximum of EVF and resulting level Z*
1114
Is new maximum gated by any remaining components?
N
Y

FIG. 11

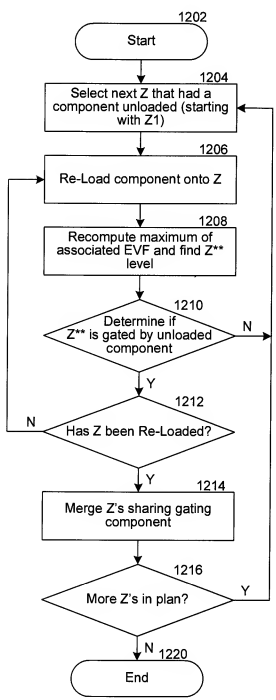
Re-Loading Step
1202
Start
1204
Select next Z that had a component unloaded (starting with Z1)
1206
Re-Load component onto Z
1208
Recompute maximum of associated EVF and find Z** level
1210
Determine if Z** is gated by unloaded component
N
Y
1212
Has Z been Re-Loaded?
N
Y
1214
Merge Z's sharing gating component
1216
More Z's in plan?
Y
N
1220
End

FIG. 12